

## **Navionics S.P.A., Viareggio, Italy,**

By Mr. Robert Moshiri, Navionics

Good afternoon everybody. I'll try and keep it short and simple. I know everybody is trying to go for a break. We've all been here for a while. I've prepared a very brief introduction to our company. In addition, I have some charts with me on a PC. If anybody is interested to take a look at some of the charts, just come over during the break or after the session, and I'll be more than happy to show them to you. I'm also staying at the Vicksburg Inn in case anybody wants to discuss any matters further.

This is basically what I want to cover very quickly. The company, introduction, the group, the product line, offshore and inland. Navionics was founded in 1983, so it's almost twenty years old, and it's still managed and run by the original founder. We actually produced the first commercially available electronic chart, and the company also manufactures GPS units. We don't just make electronic charts, we also make plotters.

As far as the U.S. market is concerned, we only market the electronic charts here. But in the rest of the world, we do sell plotters as well. We have well over 13,000 charts and port plans digitalized from paper charts and some from electronic charts.

Our research and development capabilities are in three locations in Wareham, Massachusetts, where I'm based, in Italy and in India. And in addition to that, we have various sales and marketing offices around Europe, the U.S., and in Asia.

The product line can be divided into three. And again I'm talking about the electronic charts at this point, not the plotters themselves. One is the ECDIS market. We are working with the German company 7Cs, and are currently developing this product. And then there is the PC market. The PC market has the advantage that you can provide a lot more information on a CD and make it available to the user. The downside is obviously that you've got to have a PC on board. It's not a problem with large ships, barges or yachts, but it is a problem as you go down the scale.

That's why a big part of the market is the chart plotter market, and our market there is divided into offshore and inland. For the Offshore market, we use mainly NOAA charts or the NMA charts as well as some private sources, but for the inland we use primarily private companies. The slide shows part of the Mississippi River made from NOAA charts at 16 nautical miles. Obviously as you go closer and closer, that's four nautical miles, you see more spot soundings bathymetric lines. This is the one nautical mile slide.

This actually goes down to one-eighth of a nautical mile. So, you get a lot more detail. And we spent a lot of time and effort in making the screens very clear so if somebody is navigating at a certain zoom level, we just give them the necessary information which makes it a safer for them when compared with a cluttered screen.

Obviously there are advantages with vectorized data as other speakers have described. You can turn certain layers on and off.

This is what we call the HotMaps. They're basically electronic maps of many lakes in the U.S. We don't cover the waterways as yet. And the source for these maps is all private, and it's mainly for the recreational boat markets, but it can be easily expanded to cover the waterways too.

These are their advantages: The product is seamless. So if five, ten, fifty charts are used, the user doesn't have to jump when he goes from one chart to the other, nor a change in the scale occurs. They're made so that you can float from one to the other without missing out on data. Also, the most detailed data is used in every chart, and it's integrated within that. Being vectorized, you have a lot more flexibility with the displays, et cetera as some of the previous speakers have shown and you make a lot more efficient use of the memory space, whereas raster uses a lot more memory.

The cost benefit for the consumer has been that in the recent past, the price of electronics has come down. And the memory capacity has gone up. So, currently we can offer several times the area and many times more the detail for a lot less than what the customer was paying for. So, we are making the product available to a much greater audience. And that's a big advantage. That means that more people have access to plotters and more people have access to charting, making it safer for them to navigate.

The limitations of the inland market, the way we look at it at the moment is the fact that our own coverage is not complete, because the private data sources that we use are not complete. There is a bit of a hodge podge in coverage. They cover certain parts of the country and not all. Some sources are very regional. They're very good in one region, but they have absolutely nothing or very poor data elsewhere.

The quality from private sources is also not consistent, let alone when you have multiple sources. And that means the scales are different from one chart to the other as well as the information. One chart gives you the Bathymetric information in feet, while the other in meters. One goes from one to two and five meters, while another has five, ten, and twenty bathys.

And the cost factor obviously plays an important role. Since having to purchase these or pay royalties for them, the cost of the end product goes up, and it makes it accessible to a lesser audience. And our purpose is to actually reach as many boaters as possible.

Multiple data sources obviously means different contracts, different deadlines, different priorities, and that's not desirable either. And that's about it. The last part is just an ego trip showing my name and title. Again if you have any questions, I'm available. Thank you.

